

NBC NEWS - APOLLO 16 LAUNCH (4-16-1972)

<https://www.youtube.com/watch?v=iYQZzD6nfu0> (<https://www.youtube.com/watch?v=iYQZzD6nfu0>)

Uploaded by [DANNOTCH'S NEWSVIDEOS](#)

(https://www.youtube.com/channel/UC7X0LKts7k4FT498ld_x5sq) on Fri Jul 09 2021.

From Sunday April 16th 1972, NBC News Covers the Launch of Apollo 16 with John Chancellor.

- Launched at 12:54:00 P.M E.T

The Apollo 16 Crew:

Commander :John W. Young

Command Module Pilot: T. Kenneth Mattingly Jr.

Lunar Module Pilot: Charles M. Duke Jr.

[00:00:00 \(https://www.youtube.com/watch?v=iYQZzD6nfu0\)](https://www.youtube.com/watch?v=iYQZzD6nfu0)

launch control t-minus 54 minutes and counting t-minus 54 minutes and floundering earlier this morning the cryogenics were loaded aboard the saturn 5 space vehicle the flight crew then came aboard and is now on board completing a series of communications checks the weather continues to be clear as it's supposed to be for our launch time and we continue to aim for launch at 12 54 pm eastern standard time the command communications from nbc news the flight of apollo 16. brought to you by the gulf oil corporation producers of more and better energy from oil night time at cape kennedy is not quite like night time anywhere else it gets very quiet but somewhere out there machines are running softly radar is tracking and computers are ticking away in the night and when you look at the moon from cape kennedy it makes you think of a lot of things it makes you think about the earth moving through space around the sun and revolving at 900 miles an hour and you think about cape kennedy as a sort of a platform on that moving revolving object and you realize that they send rockets from here which have to travel a quarter

[00:02:00 \(https://www.youtube.com/watch?v=iYQZzD6nfu0&t=120s\)](https://www.youtube.com/watch?v=iYQZzD6nfu0&t=120s)

from here which have to travel a quarter of a million miles out into space and land precisely on another revolving object which itself is rushing through space at 2 000 miles an hour it's enough to give a man a headache but one is also led to think about the magic of the moon and when you look at it from here you say to yourself could we really have landed men on the moon and got them back the conscious mind says yes but the old subconscious rebels because the old subconscious has been trained in myths and superstitions about the moon fed on images of a green cheese moon smiled at by the man in the moon and warned about luna ticks there's a poem which says even a man who is pure in heart and says his prayers by night may become a wolf when the wolf bane blooms and the autumn moon is bright a man in brazil took his child out of school last week because the child had been taught that man had walked on the moon the father said that was an invention of newspapers and professors who don't believe in god well it's not an invention man has walked on the moon it's just that when you look at the moon that's hard to believe sorry for the loss of sound on that

[00:04:00 \(https://www.youtube.com/watch?v=iYQZzD6nfu0&t=240s\)](https://www.youtube.com/watch?v=iYQZzD6nfu0&t=240s)

sorry for the loss of sound on that after liftoff at cape kennedy we'll be following the flight of apollo 16 here in new york and with me will be john chancellor and edwin newman and we'll be following not only the technical side of this flight that is the lunar landing the transposition and docking and the moon walks but we'll be also looking at the human side of this apollo 16 mission what it means for three men to go to the moon to fly around it and to land there that's what we'll be trying to do and we'll be doing of course the headquarters for the apollo 16 mission is in houston texas and they're with us and reporting for us will be nbc news correspondents roy neal and jim hearts thank you gary well if um you can talk about a kingdom of technology the manned spacecraft center here is certainly the palace and the picture that you see behind me is the throne room where the kings and the dukes and the barons and the earls control the flight and their estates are not landed but they are computers and in various rooms around uh the mission control center there are these computers and various spear carriers to help out the dukes and the arrows and their fervent wish is that they won't be needed that the flight will go according to plan and that they will have absolutely nothing to do about the only thing missing is a court jester but we do have a court reporter and he's on the floor roy neal a jim here on the floor in apollo control flight director eugene krantz has been checking with his flight controllers their reporting go for liftoff at this hour the worldwide tracking network the recovery forces the computer complexes all set for the liftoff of apollo 16. once the spacecraft clears the launch tower of the cape houston takes over control of the flight at that time we'll hear john mcleish begin his reports from the public affairs console on the far side to the rear of this room and astronaut gordon fullerton will be the capcom and voice contact with the astronauts in space now that title capcom goes back to the days when spacecraft were called capsules and the control room astronaut was

[00:06:00 \(https://www.youtube.com/watch?v=iYQZzD6nfu0&t=360s\)](https://www.youtube.com/watch?v=iYQZzD6nfu0&t=360s)

and the control room astronaut was called the capsule communicator apollo 16 is the 26th manned united states space flight mission control right now is ready for it but the mood here is one of quiet confidence there's very little noise in this room as the controllers talk to one another through these special headsets communication circuits at the moment i'm monitoring the main flight director's loop and uh gene krantz is still getting go reports from all stations flight dynamics guidance medical monitor tracking network recovery all stations reporting looking good jim thank you roy so in about 45 minutes these will be busy men and for the next 12 days they'll be busy now back to the cave [Music] we're back here in new york not up the cape because we have a certain amount of um technical difficulties getting john chancellor's voice here we have this picture but not the voice there are no real or serious technical problems as far as the launching itself is concerned and that is the important thing the apollo 16 astronauts are aboard the power spacecraft they'll be lifting off at 54 minutes after the hour for their half a quarter of a million mile trip to the moon we'll be covering that and later on in this program we'll also be giving an idea of what these astronauts will be doing the various critical stages they have to go through today there are three critical maneuvers one of course is lift off itself to get off the earth the second one is after they are in earth orbit to go into tli which is the transmitter insertion that's the technical description of it what it really means is that is the start of their trip towards the moon and the third critical maneuver is transposition and docking when they link up with the liver margin we'll be talking about that in just a moment and watching the lift off itself from cape kennedy right now we'll pause for a word from golf in about 45 minutes the apollo 16 moon mission ought to begin we can foresee no delays no holdups in the

[00:08:01 \(https://www.youtube.com/watch?v=iYQZzD6nfu0&t=481s\)](https://www.youtube.com/watch?v=iYQZzD6nfu0&t=481s)

foresee no delays no holdups in the countdown which has been proceeding normally all morning a lot of people here at cape kennedy as usual for one of these the vice president arrived vice president agnew arrived here just a few minutes ago king hussein of jordan who's visiting the united states is a guest here today interested in space and he'll see that site as you will in as i say 45 minutes when the apollo 16 astronauts john young ken mattingly and charles duke start their 12-day voyage to the moon landing in the descartes highlands of the moon for an excursion three extra vehicular excursions in their rover car which will take them about 25 miles around on the moon's surface and we'll be watching much of that on television this is in terms of the apollo program uh one of the long j missions but now in a minute we're going to get

chuck holland's head uh from the voice of apollo who's going to give us a report on the countdown this is apollo saturn launch control t-minus 43 minutes and counting a critical power transfer test was just conducted during this test the flight vehicle batteries take on the workload having been shared up to that point by an external source we've gone back to that external source again and we'll stay on that saving the flight batteries until the final minute approximately 50 seconds in the countdown superintendent of range operations just reported that the kennedy space center is clear for launch now t-minus 42 minutes 30 seconds and counting this is kennedy launch control as you can see the apollo 16 launch vehicle is poised here on pad 39a if cape kennedy ready for its trip to the moon but unlike all the other apollo launch rockets this one has been on that pad before apollo 16's fully assembled launch vehicle was rolled out of the assembly building on its one mile an hour journey to pad 39a last december it was carried by a

[00:10:03 \(https://www.youtube.com/watch?v=iYQZzD6nfu0&t=603s\)](https://www.youtube.com/watch?v=iYQZzD6nfu0&t=603s)

39a last december it was carried by a specially built transporter designed to lift the 12 million pound load and on this occasion wives and children of the spaceport workers were invited to watch as the rocket was set in place on the pad but later technicians tested the system and damaged a fuel tank aboard the spacecraft this meant that the whole rocket assembly had to be brought back for repairs all the way back to the huge assembly building at that same slow one mile an hour pace inside the building cranes lifted the spacecraft assembly off the saturn booster rockets took it to another building and started to work after removing the heat shield it was a fairly simple matter to replace the damaged tank a helium pressure test that ruptured a bladder inside a tank that fueled the spacecraft control system although solving the problem was a simple matter the logistics involved in moving this spacecraft around caused a one-month delay in the launch of apollo 16. it was the only hit so far in the flawless launch record for man trips to the moon but as we can see they are there now and they're getting ready to go we normally use our own cameras to show you these events but there are a number of cameras that nasa has here and we've made some use of them while our view of the apollo saturn vehicle liftoff is usually restricted to an average of six cameras the people who launch it use 60 cameras besides watching the launch the engineers here use the cameras to monitor critical positions to look at dials wires and pipes all over the spacecraft and its launch rocket using only 30 of their 60 cameras we are going to look at what the engineers now are looking at here some of the dials and gadgets won't mean anything to you or to me but they mean a lot to the engineers the numbers in the upper left hand corner there are the numbers of the cameras and this enables the engineers

[00:12:05 \(https://www.youtube.com/watch?v=iYQZzD6nfu0&t=725s\)](https://www.youtube.com/watch?v=iYQZzD6nfu0&t=725s)

underway at this time are some checks of the rain safety command system during these checks the signal is sent to receivers aboard the three stages of the saturn v launch vehicle this receiver is connected to destruct packages aboard the vehicle if the vehicle should stray off path due to a malfunction the range safety officer could elect to send signals by way of these receivers to the distress package this would be done only after the astronaut crew of course had executed their abort and were well away from the vehicle during these tests the signals are sent with the stroke packages in an unarmed condition at the check to ensure that the signals are reaching the destruct packages or at least for the test reaching the receiver the swing arm now in the 12 degree position or park position the astronaut crew aboard the spacecraft now in an emergency situation could use their launch escape tower to clear themselves well away from the spacecraft in an emergency from this first vehicle in an emergency in such an emergency they would be carried to a proper altitude at which the regular spacecraft parachutes would deploy and the crew would then make a normal recovery they also have the option with the swing arm at the 12 degree position to haul it back where they could quickly then go across the swing arm again having an option of either taking an elevator to a safe area at the bottom of the pad or a slide wire which has a cab attached to it which would carry them to the pad perimeter these would be decisions depending on the type of emergency in the launch control center the vice president of the united states bureau agnew just walk into the viewing room he will plan to view the launch from here now t-minus 38 minutes six seconds and counting this is kennedy launch control

[00:14:06 \(https://www.youtube.com/watch?v=iYQZzD6nfu0&t=846s\)](https://www.youtube.com/watch?v=iYQZzD6nfu0&t=846s)

roy meal in mission control and flight director gene krantz and some of his flight controllers have just detected what could be a major problem uh apparently there's been a breakdown in circuits between the goddard computer complex in greenbelt maryland and a releasing station the main releasing station in monrovia virginia uh as a result this could affect all data circuits worldwide which are of course necessary for this launch the status right now is that the flight director has asked his communications people to give him a status report in about seven minutes from now uh if this occasions a hold while repairs are made that hold would be made at minus 22 minutes in the count now that's the status right now in mission control garrett thank you i will see what happens in the next few minutes whether this is a could be a real major problem as you see or one which can be cleared up as of right now the liftoff from cape kennedy is scheduled for 54 minutes after this hour and we'll see what happens then this as we said earlier is a apollo 16 flight which is perhaps one of the most sophisticated and complicated technical efforts man has ever undertaken but amid all of these tubes and these buttons and these rockets and all of this fuel there are these three men who are going to go a quarter of a million miles to the moon they're going to circle around it and land on it and walk on it and drive on it and then they're going to come away from it and come back to the to earth into the united states so when we talk about the these people it's good to know what who they are and what their background is that they are not faceless men but they are human beings and i want to do that right now and give you an idea of who the three astronauts are this apollo 16 includes two newcomers to space flight and one old hand or one space veteran command ship pilot ken mattingly and

[00:16:01 \(https://www.youtube.com/watch?v=iYQZzD6nfu0&t=961s\)](https://www.youtube.com/watch?v=iYQZzD6nfu0&t=961s)

command ship pilot ken mattingly and lunar lander pilot charles duke have never flown before in space but the mission commander john young has made three previous flights into space young a 41 year old navy captain was selected in the second group of astronauts back in 1962 his first flight into space was also the first manned flight in the gemini series young was the pilot for germany three a three orbit flight designed to test the systems in the two-man launch series his command pilot was gus grissom one of the original seven astronauts grissom later died in a fire during an apollo series test gemini 3 was launched in march 1965 and was called a success young and grissom accomplished the first manned orbital trajectory modifications that means simply they changed their own flight path in 1966 young was the command pilot for germany 10 a rendezvous and docking mission that included a spacewalk the germany 10 spacecraft caught up to and docked with a target vehicle and agena young then relighted the eugenius engine which kicked the dock combination into a 476 mile high orbit a record altitude at the one-minute time the flame deflector underneath the five saturn v first stage engine will start later in the chimney some pilot michael collins went outside the spacecraft to retrieve some equipment from another target vehicle the flight was concluded successfully three days later two miles from the recovery ship young a native of orlando florida near cape kennedy was the command module pilot for apollo 10. the mission was designed to be a complete test of the launch flight and moon landing vehicles without actually landing on the moon young like most of his fellow astronauts is a test pilot with military training in all types of aircraft with young on this flight we're test pilots tom stafford the mission commander and lunar module pilot gene cernan

[00:18:00 \(https://www.youtube.com/watch?v=iYQZzD6nfu0&t=1080s\)](https://www.youtube.com/watch?v=iYQZzD6nfu0&t=1080s)

cernan apollo 10 was launched from cape kennedy on may 18 1969 in what was to be a dress rehearsal for the first moon landing just a few months later on their way to the moon commander stafford demonstrated some of the effects of weightlessness using his command pilot as an example the more serious side of the mission included the lunar module separation and descent within 10 miles of the moon's surface after a few anxious moments when the lunar ascent stage gyrated wildly on the way back to the command ship the mission ended successfully with a near perfect recovery now after three successful flights into space young's mission includes walking on the surface of the moon the command module pilot for apollo 16 is ken mattingly a 36 year old navy lieutenant commander mattingly was picked with the fifth group of astronauts in 1966 and has never flown in space he was named command module pilot for apollo 13 but exposure to measles just 72 hours before the flight caused his replacement by john swigert trouble aboard the service module cut apollo 13's flight short mattingly grounded behind the houston control panel worked with the flight controllers

that devised a way for the apollo 13 crew to bring themselves back to earth safely using their moon landing ship as a lifeboat as command module pilot for apollo 16 matinee will stay aboard his orbiting spacecraft while mission commander john young and lunar module pilot charles duke are on the surface he'll conduct mapping and photography exercises along with other experiments then after rendezvous with young and duke on the way home he will go outside the spacecraft to recover field magazines from the service module

[00:20:00 \(https://www.youtube.com/watch?v=iYQZzD6nfu0&t=1200s\)](https://www.youtube.com/watch?v=iYQZzD6nfu0&t=1200s)

magazines from the service module air force lieutenant colonel charles duke will be the lunar module pilot for apollo 16 and he'll explore the moon's surface along with mission commander john young duke is a 36 year old member of the fifth astronaut class he was recruited in 1966. he has served as a member of the astronaut support crew for apollo 10 and was the backup lunar module pilot for apollo 13. duke a test pilot and instructor for the f-104 phantom fighters is familiar with a variety of aircraft in the air force arsenal he has spent a lot of time getting familiar with new ones in recent months this odd-looking craft is designed to stimulate or simulate the landing characteristics of the lunar lander it requires a new set of flying disciplines and skills for most pilots duke and mission commander john young will have to land their lunar module with more care than most of the other previous landings their target area on the moon is a hilly region known as the descartes it's a region which is representative of the moon and that's where they're going to land those are the three men who will be going to the moon now let's go back to john chancellor and cape kennedy we should know in just a minute or two if the communications problem that has developed in the computers between the goddard center in maryland and another center in virginia is enough to hold up this operation but here at the cape they have begun pouring water into the launch pad to cool it off and that means that they intend to get the rocket off and that should happen in about a half an hour you know when you look at the pictures of young and mattingly and duke one or two things do come to mind young is kind of a joker when he was on gemini iii long ago instead of taking along the sort of toothpaste food astronauts were then and now asked to carry he brought along a corned beef sandwich one of the more human moments in the space program and mattingly and duke have an unusual relationship mattingly was supposed to go to the moon on apollo 13 that ill-fated venture that didn't make it to the moon but he got bumped off before they left because a backup crewman got the german measles

[00:22:01 \(https://www.youtube.com/watch?v=iYQZzD6nfu0&t=1321s\)](https://www.youtube.com/watch?v=iYQZzD6nfu0&t=1321s)

a backup crewman got the german measles well the backup crewman was charles duke who is going today all well is he all here as well and we'll be launching i would think in about a half an hour and we'll be back after this message from gulf no matter how many times you witness an apollo launch here at cape kennedy it is always a fantastic spectacle for even for those of us who've been coming here for some time those three men inside the spacecraft committing their lives to a trip to the moon and back again the thunder of sound rumbling across the ground from the pad where you stand and you can see it go up david brinkley once said the noise made the loose change in his pocket jingle and some people cry when the rocket goes off so we've got some scenes now from previous launches to show you

[00:24:54 \(https://www.youtube.com/watch?v=iYQZzD6nfu0&t=1494s\)](https://www.youtube.com/watch?v=iYQZzD6nfu0&t=1494s)

[Music] they were listening to the voice of apollo while you were watching that film and they said the voice said it's go for countdown which means they're still continuing the countdown even though they're looking at two problems one is the communications problem we mentioned a few minutes ago on the lines between computers in maryland and computers in virginia the other is a thing called a backup yaw gyro the backup yaw gyro is part of the mechanism which uh navigate which helps to position uh the rocket as it goes through space they don't think we've been looking at this all morning ourselves uh the people we talk to don't think it's a serious problem it may just be a light here on the ground nevertheless the countdown goes on as they are looking at that we'll continue to look at it after this message from gulf

[00:26:01 \(https://www.youtube.com/watch?v=iYQZzD6nfu0&t=1561s\)](https://www.youtube.com/watch?v=iYQZzD6nfu0&t=1561s)

nbc news continues with its coverage of apollo 16 brought to you by the gulf oil corporation producers of more and better energy from oil here again is john chancellor the problem that they had if indeed it is a problem here at cape kennedy with the yaw gyro has been solved or perhaps shelved as a better way to put it they have looked at all the possible dangers it could bring to the mission they have found that those are only minimal or non-existent and so they have been given a go for launch that would be uh 54 eastern standard time in about a half an hour they are on the rocket now topping off the liquid hydrogen the liquid oxygen fuels and the weather here continues fine so it looks like a very good countdown in this series they will take off this afternoon on the 16th of april and they will arrive in the vicinity of the moon on wednesday they will land thursday afternoon and begin a series of extra vehicular activities as it's called here in the lunar highlands garrett gutley has been looking into what this mission means and what they'll do garrick are you there yes john i am the mathematics of getting from the earth the moon were worked out long before man ever went to the moon and the flight path for apollo 16 would be pretty much like flight paths for the previous apollo missions here's what i mean this um globe represents the earth now the earth is really 8 000 miles across this is only one foot as you see it from the side it's been reduced in scale as everything has been here except me the um apollo 16 astronauts will lift off with cape kennedy they'll go around the earth for less than one complete orbit and then over the pacific ocean they'll ignite their engines which will send them out of the earth's gravitational pull and on their way towards the moon shortly after that they will go through a stage called transposition and docking that's when they separate and then dock with a lunar module after that is completed the space

[00:28:00 \(https://www.youtube.com/watch?v=iYQZzD6nfu0&t=1680s\)](https://www.youtube.com/watch?v=iYQZzD6nfu0&t=1680s)

module after that is completed the space vehicle will look like this lunar module here the crew in the command space module here and that's the way they will that's the way they will go to the moon the trip itself then or what they call the coast will run for three days it's a quarter of a million miles to the moon along the way they can make mid-course corrections if any are necessary then on wednesday they'll arrive at the moon they'll go into orbit around it get into position for landing that landing will occur on thursday two of the astronauts will go down in the lunar module they'll spend three days on the moon's surface walking and riding around they'll be raking up samples of lunar soil they'll be picking up moon rocks they'll be setting up scientific experiments and they'll be taking pictures of just about everything they see there the third astronaut ken mattingly will remain in the spacecraft orbiting the moon he'll be supervising a serious series of scientific experiments and photographs of the moon and then a week from today the rendezvous will occur the two astronauts will lift off from the moon they will rejoin ken mattingly and they will then start their trip back to earth on the way back they'll eject one sub-satellite which will stay behind and orbit the moon to carry out further scientific experiments halfway back there will be a space walk by astronaut mattingly he is going to go out of the space vehicle and retrieve some film cassettes these are pictures taken automatically of the moon during the three days orbit of the moon after that if all goes normal it will be a relaxed ride back to earth they will arrive here on friday april 28th when they re-enter the atmosphere and they will splash down in the pacific near the christmas islands south and a little to the east of hawaii for me it was just about a 30-foot walk for them it was almost half a million miles now let's go back to john chancellor at the cape about t minus 17 minutes now to the launch and everything is going well here the recovery forces have notified the authorities here that they are ready to do their work need it be done in case there's

[00:30:00 \(https://www.youtube.com/watch?v=iYQZzD6nfu0&t=1800s\)](https://www.youtube.com/watch?v=iYQZzD6nfu0&t=1800s)

need it be done in case there's something that goes wrong with the rocket after it lifts off the ground uh the power drop out in a communications network between maryland and i think west virginia has been solved by the use of a backup system so in about 15 minutes it's going to be very very exciting here and where the countdown will get much closer in about 10. we'll be back with all of that after this message from golf all well here at cape kennedy launch at 12 54 eastern standard time in just a few minutes the astronauts john young ken mattingly and charles duke are in the spacecraft they've been in there since 10 39 this morning working on their dials and switches and making sure that everything is ready they began their adventure at 7 39 this morning that's when they woke up in their crew quarters which is nine miles from where we are here at pad

39a the astronauts normally have routines for breakfast and here they are having breakfast the astronauts themselves had to eat steak and eggs that's a special diet they have but their guests had other things some of them had bacon and eggs that's young there john young having his breakfast he now in the spacecraft on his way to the moon other people dick slayton uh members of the backup crew stuart rosa and ed mitchell were at the breakfast dave bauer the leader of their support group that's young suiting up complicated business getting into those terribly expensive suits that's duke charles duke a lieutenant colonel in the u.s air force getting into his

[00:32:05 \(https://www.youtube.com/watch?v=iYQZzD6nfu0&t=1925s\)](https://www.youtube.com/watch?v=iYQZzD6nfu0&t=1925s)

and that's ken mattingly getting into his suit he will fly the command module called casper for casper the ghost as they circle around the moon they come there's one of the classic scenes in american life today the astronauts coming out carrying their life support packages they're all sealed in there they get oxygen and all the rest of it from those bags they carry other people wearing their white suits getting into the van it's a nine mile drive over here that was earlier this morning mrs young and mrs duke are here to see the launch mrs mattingly is expecting a child about the time he gets back so she stayed home in houston there's one of those cameras we showed you before one of the nasa cameras of the little numbers in the upper left hand corner and there they are getting ready to go up in the elevator into what is called into the launch tower obviously this is not happening now everybody this happened before 10 o'clock this morning there they are walking across a swing arm from the launch tower into what is called the white road the white room is located next to the space vehicle itself where they sit on the top of this enormous rocket they are about

[00:34:01 \(https://www.youtube.com/watch?v=iYQZzD6nfu0&t=2041s\)](https://www.youtube.com/watch?v=iYQZzD6nfu0&t=2041s)

363 feet up in the air about 350 feet when they're sitting in there way up high there the top of an enormous building the test conductor a man named skip chauvin said welcome to the spacecraft and young said good morning it's great to be here and mattingly speaking of the weather said good morning it's a pretty one isn't it and so they're in there now sitting as one astronaut once said on top of a lot of equipment that was uh built by people who made the low bid but it's worked so far tens of millions of parts and uh there's no reason now why it won't work today as we say the weather here at the cape is perfect they we are going to try to track this rocket when it leaves here we're going to try to track it as far as we possibly can so you may get today several minutes of marvelous shots of seeing that rocket go out across the atlantic and up into the air as swiftly as it does when we were here the last time for apollo 15 you'll recall we had cloud cover and the rocket went up and was lost in the clouds very quickly but today as we look out the window here there are only one or two little tiny clouds and they're down at what appear to be about the five or ten thousand foot level and they're hardly clouds at all and the sky is a beautiful blue and we should be able to see this going very quickly and it isn't going to be very long now before it does start to go the problem with the communications is over the problem with the gyro the yaw gyro is over the countdown is proceeding into its final stages now the swing arms are starting to come back almost all back from the rocket

[00:36:02 \(https://www.youtube.com/watch?v=iYQZzD6nfu0&t=2162s\)](https://www.youtube.com/watch?v=iYQZzD6nfu0&t=2162s)

almost all back from the rocket and it looks as though nothing is going to stand in the way of these men getting to the moon as far as we can tell now in just a second or two we'll have chuck holland's head the voice of apollo with an update announcement launch control t-minus 10 minutes and counting and we just heard from the spacecraft commissioner john young that casper and orion are go for launch this spacecraft is now on full internal power up to this point it's been sharing its power load with the ground supply short time ago the astrocalm circuit was checked out this is the circuit that the astronauts will be on during the launch phase they'll be on this with stoney the astronaut communicator here in the launch control center the launch operations manager paul donnelly and the spacecraft test supervisor skip shogun the crew actually goes onto the astro-com circuit at the t-minus four minute mark in the countdown weather continues to look good for launch as we aim toward a 12 54 pm eastern standard time liftoff now at t minus nine minutes 11 seconds and counting this is kennedy launch control casper and orion are two words that you'll hear about during this

apollo 16 mission casper is the um command module that will circle the moon once they get there and orion is the lunar module which will land on the moon orion orion is a star they chose it because it's bright and important to their navigation casper is named after casper the ghost a television comic character and uh there is a mixture of both humor and seriousness in those two names we will be back now launch in about eight and a half minutes so we're going to bring you all of that

[00:38:01 \(https://www.youtube.com/watch?v=iYQZzD6nfu0&t=2281s\)](https://www.youtube.com/watch?v=iYQZzD6nfu0&t=2281s)

to bring you all of that after this launch in seven minutes and 23 seconds now the spacecraft on uh various kinds of internal power everything ready to go here at cape kennedy should anything go wrong you'll notice on the top of the spacecraft there of what looks like a long pointed nose actually that's called the launch escape tower and if something goes wrong even now at this moment and they have to get away from all that fuel they're sitting on they can press various buttons and that is actually a jet it will pull them off in their spacecraft off the tower uh it has been armed it was armed about a half an hour ago and it's ready to go now if they take off when they take off and should something go wrong that escape tower still is important to them uh up until about three minutes into the flight if something goes wrong they can separate from the saturn rocket below them be pulled away by that rocket and dropped about 500 miles out into the atlantic safe in their spacecraft or if they have trouble even later in the launch phase the command module can separate and land three thousand miles downrange nobody's ever tried that now let's listen to the voice of apollo chuck holland's head this is apollo saturn launch control we're now passing the six minute mark in the countdown emergency detection system has now been placed in the launch mode houston flight has also indicated that they are go for the automatic sequencer at the t-minus three minute seven second mark the launch will go on the automatic sequencer and from that point on the launch will be automatically handled by the sequencer coming up on the t minus five minute and thirty second mark at that time we'll be standing by for a go to launch from commission director chet lee

[00:40:01 \(https://www.youtube.com/watch?v=iYQZzD6nfu0&t=2401s\)](https://www.youtube.com/watch?v=iYQZzD6nfu0&t=2401s)

mission director verifies goal for launch director chet lee from houston verifies go for launch all elements now reporting into test supervisor gordon turner that they are go for launch now t-minus five minutes 13 seconds and counting this is kennedy launch control so again we're going to have a look at the performance of the saturn v rocket a three-stage rocket of enormous power and thrust which has worked perfectly in all of these launches it's been a marvelous vehicle to get men up into orbit and to send them off toward the moon they it's it's pretty big it weighs six and a half million pounds there as it sits on the pad and when they turn those engines on as they will in something under five minutes it will be developing seven and a half million pounds of thrust the fuel that the astronauts are sitting on top of now would have to be carried in 54 railroad tank cars 54 of them to fuel that millions of pounds of fuel that they have and in the first minute and 20 seconds of this flight they'll use two million pounds of fuel only negative reporting if there's a problem only will they come up on the air at this time now t minus four minus three seconds all going well there although what's in the minds of the astronauts we can only surmise my guess would be having known a few of them over the years that they are being very busy and very controlled uh their heartbeats are being monitored by doctors here at cape kennedy but these men and it's an important factor remember people say maybe we should send poets to the moon maybe we should send writers to the moon and that's all very well but it's a terribly complicated flying

[00:42:01 \(https://www.youtube.com/watch?v=iYQZzD6nfu0&t=2521s\)](https://www.youtube.com/watch?v=iYQZzD6nfu0&t=2521s)

but it's a terribly complicated flying job calling for the very best pilots that we have in this country and these men are all of them pilots john young was a navy test pilot he has two interesting records to his credit he took a phantom jet in 34 seconds from standing still on a on an airport apron to 9280 feet in just about a half a minute he also holds the altitude record for the phantom jet 80 000 feet and today he's going to have a ride that is indescribable even when compared to that fast run he had in the phantom jet going to 9000 feet now here's mission control will pressurize the fuel tanks these fuel tanks are pressurized to ensure that as the

fuels deplete they are forced down or to assure an even flow into the engines fuel tanks are now being pressurized the s4b our third stage but the oxygen tank has just been pressurized and the second stage liquid oxygen tank has been pressurized as we move down through the count at the t-minus 17 second mark we'll get a release of the guidance system in the instrument unit also handled by the automatic sequencer will be the release of swing arms number one and number two the ignition of the saturn 5 5 engines the first stage five engines will take place at 8.9 seconds in the countdown 8.9 seconds they'll be the engines or the vehicle will then be held down until we build up to 7.7 million pounds of thrust at the t-minus three-minute mark tape reporters on board the spacecraft were turned on these recorders record both voice and data spacecraft now full internal cooling the cooling load has been shared with a ground cooling t-minus 90 seconds and counting a minus

[00:44:01 \(https://www.youtube.com/watch?v=iYQZzD6nfu0&t=2641s\)](https://www.youtube.com/watch?v=iYQZzD6nfu0&t=2641s)

t-minus 90 seconds and counting a minus 90 seconds and counting at t minus one minute 15 seconds of spacecraft batteries will be turned on for launch these batteries will give an additional power source to the spacecraft as well as be acting as a backup for the fuel cells the third stage liquid hydrogen tanks now pressurize all third stage tanks pressurized second stage tanks also pressurized t-minus one minute t-minus one minute and counting now moving into the final minute of the count we'll be standing by switch over to internal power switch over taking place at this time going on internal power t-minus 45 seconds and counting guidance align just announced by john young that will be the last action taken by the crew aboard the spacecraft t-minus 35 and counting countdown continuing to go well t-minus 30. t-minus 25 24 23 22 21 20 19 18 17 guidance release 15 14 13 12 11 10 9. we have ignition sequence start the engine is now building up to 7.7 million pounds of thrust we have a launch commit and we have a liftoff moving [Music] oh seconds

[00:46:03 \(https://www.youtube.com/watch?v=iYQZzD6nfu0&t=2763s\)](https://www.youtube.com/watch?v=iYQZzD6nfu0&t=2763s)

36 seconds roll program completed pitch profile still in progress 40 seconds mark 50 seconds kevin pressure relieving adjusting now from sea level to a space environment two nautical miles in altitude says apollo 16 now capable of water landing mark one minute 12 seconds coming up on period of maximum aerodynamic pressure on the vehicle one minute 22 seconds six nautical miles in altitude looking good mark one minute thirty seconds eight multiple miles in altitude one minute 41 seconds pass through max q still looking good through max q and everything looks good 16 now 12.5 nautical miles in altitude young duke mattingly moving out to the outer traces of the earth's atmosphere stand mark two minutes three seconds of status check and mission control by flight director gene krantz to go no go for staging [Music] coming up on center engine shutdown board you're going for staging center engine shut down on time [Music] 2 minus 28 seconds 26 nautical miles in altitude to 32 nautical miles downrange

[00:48:02 \(https://www.youtube.com/watch?v=iYQZzD6nfu0&t=2882s\)](https://www.youtube.com/watch?v=iYQZzD6nfu0&t=2882s)

2 minus 35 seconds two minutes 40 seconds coming up on staging ignition on the s2 roger two minutes 53 seconds a normal staging your young duke mattingly now riding on five good second stage engines go five on the s2 three minutes two seconds the giant first stage falling away now it's a day's work completed apollo 16 now 46 nautical miles in altitude 80 nautical miles downrange coming up on skirt step and tower jettison [Music] three minutes 28 seconds the launch escape tower is ejected on time it's a surveillance rule no longer required steering as compared to the cmc is go pleasure mark three minutes 45 seconds apollo 16 now 62 nautical miles in altitude 135 nautical miles downrange apollo 16 now 33 feet shorter and 9 000 pounds lighter unencumbered now for its mission in space 16 is tough four minutes everything looks great down here looks good up here [Music] mark four minus 10 seconds 70 nautical miles in altitude 170 nautical miles downrange velocity now reading ten thousand six hundred feet per second mark 4 minus 30 seconds in mission control trajectory data driving right

[00:50:00 \(https://www.youtube.com/watch?v=iYQZzD6nfu0&t=3000s\)](https://www.youtube.com/watch?v=iYQZzD6nfu0&t=3000s)

control trajectory data driving right down the middle of our plot boards is expected right now flight path data is go that's what's left of the launch tower here on the ground mark 4 minus 45 seconds 76 nautical miles in altitude 220 nautical miles downrange thousands of gallons of cooling water there on pad 39a millions of gallons mark 5 minus 10 seconds still good performance on all five second stage engine [Music] second stage shutdown predicted at nine minutes 19 seconds 16 houston times are nominal level sense of the eight plus three seven and cut off at nine plus one nine [Music] mark 5 minutes 40 seconds another status check in mission control by flight director gene krantz his console is coming up all greens are looking good at this time [Music] for s4b the coi capability mark you have it now that's an airport coming up on six minutes capcom gordon fullerton reporting that 16 capable of reaching a minimum orbit with a good third stage in service module engines we're at six minutes eight seconds apollo 16 88 nautical miles in altitude to 380 nautical miles downrange it's building up mark 6 minutes 30 seconds velocity now reading 14 880 feet per second

[00:52:02 \(https://www.youtube.com/watch?v=iYQZzD6nfu0&t=3122s\)](https://www.youtube.com/watch?v=iYQZzD6nfu0&t=3122s)

14 880 feet per second altitude 90 nautical miles for apollo 16 downrange distance of 440 nautical miles standby for s4b to orbit mark you have it now roger they're going about thousand six fifty seconds charlie young duke it's building up six minutes 30 seconds velocity now reading 14 880 feet per second altitude 90 nautical miles for apollo 16 downrange distance of 440 nautical miles that buy for s4b to orbit mark you have it now roger they're going about ten thousand fifty [Music] if given a good third stage mark seven minutes 91 nautical miles in altitude 496 nautical miles downrange mark seven minutes 15 seconds 16 flying almost parallel over the ocean now with a young crew in a pitched down position are really moving out now for downrange distance we show apollo 16 to 551 nautical miles downrange velocity now reading 17 527 feet per second that's more than ten thousand miles an hour at this moment they have traveled

[00:54:00 \(https://www.youtube.com/watch?v=iYQZzD6nfu0&t=3240s\)](https://www.youtube.com/watch?v=iYQZzD6nfu0&t=3240s)

hour at this moment they have traveled 590 miles coming up on center engine shut down all right center engine shut down on time seven minutes 50 seconds 92 nautical miles in altitude 620 nautical miles downrange showing stable thrust on the other four engines uh they've got about a minute to go in the burn time remaining 16 and eight minutes looking good here that means the center second stage center engine is not burning but the outboard engines around it still have about 45 seconds of power left mark eight minutes 25 seconds on the pu shift looks good down here go for staging parker eight minutes 35 seconds apollo 16 now 93 nautical miles in altitude 756 nautical miles downrange that terse response from apollo 16 commander john young we're at eight minutes 52 seconds apollo 16 now 807 nautical miles downrange 92 nautical miles in altitude velocity now reading 21 642 feet per second now the big s4b engine that's a very important one has to ignite in about another 10 seconds you hear them talking about that stand by for mode four capability mark you have four now okay there was uh roger the young crew has used up two-thirds of their

[00:56:00 \(https://www.youtube.com/watch?v=iYQZzD6nfu0&t=3360s\)](https://www.youtube.com/watch?v=iYQZzD6nfu0&t=3360s)

two-thirds of their saturn stages on the way to orbit we see good performance on the third stage the s4b that mode 4 report says apollo 16 can achieve orbit on spacecraft power only 9 minutes 50 seconds apollo 16 93 nautical miles in altitude one thousand eleven nautical miles downrange velocity now reading at twenty three thousand six hundred and fifty four feet per second better than thirteen thousand miles an hour mark 10 minutes 18 seconds of status checking mission control for orbit uh [Music] 49. they're still using that 10 minutes 40 seconds a predicted time was shut down 11 minutes 49 seconds apollo 16 93 nautical miles in altitude 1192 nautical miles downrange so in less than a minute they'll turn that s4b engine off for a while mark 11 minutes showing a build up in velocity now reading 24 621 feet per second and accelerating mark 11 minus 10 seconds that's the firing room here at cape kennedy now reading at 24 887 feet per second you can see the vice president on your screen about 98 of the desired speed that's where they press on insertion less than 20 seconds now from time to shut down now they're going to turn that engine off

[00:58:01 \(https://www.youtube.com/watch?v=iYQZzD6nfu0&t=3481s\)](https://www.youtube.com/watch?v=iYQZzD6nfu0&t=3481s)

mark 11 minutes 40 seconds apollo 16 now 1400 nautical miles downrange so it's all working well up there right on the dock that was shut down right on the money pitch if not another minute they are going to be in a parking orbit i think maybe they're in that now and they will stay in this parking orbit for a while in about two hours and 20 minutes 12 minutes 25 years safe the orbit is go so there you go it's just beautiful up here looking out the window it's really fantastic and the thing worked like a champ which i did hey we copy now 62 and uh your orbit my radar is 95 by 90. mark 12 minutes 54 seconds that enthusiastic report from orbit was from spacecraft commander john young apollo 16 in what appears to be a safe orbit uh preliminary numbers show a 94 or 95 nautical miles by 90 nautical miles the saturn v once again an apparent victory in its tug of war struggle uh with the earth's forces of gravity we're at 13 minutes 20 seconds ground elapsed time and apollo 16 is in orbit in about two hours and 20 minutes there will fire that s4b engine again and they'll run it for six minutes and that will boost their speed

[01:00:00 \(https://www.youtube.com/watch?v=iYQZzD6nfu0&t=3600s\)](https://www.youtube.com/watch?v=iYQZzD6nfu0&t=3600s)

minutes and that will boost their speed from fourteen thousand miles an hour to twenty three thousand miles an hour if you can complicate the booster looks good it's reconfigured and at that point that'll be around 3 30 p.m today eastern standard time uh they will head for the moon they are in a parking orbit now uh and they will burn the engine again and head for the moon my calculation is that should happen about 3 33 p.m eastern standard time today and uh as far as we can tell now everything worked perfectly john young said this thing worked like a gem has not diminished and as chairman of the space council 9 as i 16 forward to 17 and through the skylab launchings to follow what's going to come after that will depend to a great extent on the continuation of your expertise and the great way you discharge your responsibilities but you know that the people of this country still have that explorer spirit they still have that tremendous sense of urgency for the united states to be the leader of the world and this kind of technological advance so congratulations again to for a superb job and i never failed a marvel at the way you bring these things off we're all with you and we appreciate what you've done a sentiment shared by many of us we do indeed never cease to marvel at the way they bring these things off they have broken they brought it off today perfectly a few small problems easily handled and nothing very difficult at all a brilliant launch beautiful weather punched right through the clouds there

[01:02:03 \(https://www.youtube.com/watch?v=iYQZzD6nfu0&t=3723s\)](https://www.youtube.com/watch?v=iYQZzD6nfu0&t=3723s)

they there's some things that i find incredible about the size of that here you've got something that weighs six and a half million pounds and a minute and 20 seconds after it leaves the pad with a sort of a great slowness about it it's going a thousand miles an hour um many many incredible things we tape recorded the launch for those of you who saw it from those few of you who may have missed it and we're going to play it again now here the launch of apollo 16 today [Music]

[01:04:05 \(https://www.youtube.com/watch?v=iYQZzD6nfu0&t=3845s\)](https://www.youtube.com/watch?v=iYQZzD6nfu0&t=3845s)

well it was quite a sight and they are now in an orbit between 90 and 95 miles up going around the earth the astronauts in their space vehicle are in a parking orbit later this afternoon they will punch a button on the spacecraft fire up an engine it will burn for six minutes it will increase their speed to 23 000 miles an hour it will pull them away from the gravitational field of the earth and head them toward the gravitational field of the moon so far the day this day for everybody concerned with apollo 16 has gone perfectly we'll have more on this story after this word from golf apollo 16 left the pad here at cape kennedy 19 and a half minutes ago and is now safely up there parked going around the earth when it left here when it lifted off the pad it became the it came under the control of the mann spacecraft center at houston and jim hearts is there jim thank you john thank you john uh we were just listening to the serpent here for a second there was a minor little problem uh they could see on their consoles here on the ground what was called a possible blockage in a primary coolant loop they didn't say much more than that and so we assumed that perhaps it was one of the coolant loops in the suits however there are several uh systems onboard the spacecraft which are used to keep it

cool and they ask john young to check a switch or a dial and spacecraft he did and just about 30 seconds ago they said whatever you did that corrected the problem so they are well on their way and this next hour and a half is spent mainly in checking the spacecraft systems it goes through tremendous stresses at launch and they want to make sure everything is

[01:06:00 \(https://www.youtube.com/watch?v=iYQZzD6nfu0&t=3960s\)](https://www.youtube.com/watch?v=iYQZzD6nfu0&t=3960s)

everything is in first-rate shape before they fire up the engine again and go on toward the moon so it does require a great deal of uh checks on board the spacecraft and checks from the ground and uh that that again takes a little over an hour and by 3 30 this afternoon they should have all that in shape and if everything is in shape they will go on now back to gary kepley in new york at about four o'clock this afternoon eastern time after the apollo 16 spacecraft has left the earth's orbit and started its journey to the moon there will be a very important maneuver it's called transposition and docking it's happened in all of the moon flights and it's important because it has to be successful if the astronauts are to land on the moon's surface and here's how it works briefly with our little little toy here this is the apollo spacecraft as it is now and as it will be up to transposition and docking the third stage rocket this shield housing the lunar module and the command service module here with the three-man crew up in front then they will separate like this and they will turn around for the docking maneuver i'll take this protective shield off so you can see the lunar module there the crew will then where they're using their own small rockets will guide their vehicle back towards the lunar module aiming for a small opening here which they have to couple into of course both vehicles will be going at a fantastic speed in space but that is of no importance because they were moving at the same speed but it is a very difficult and delicate maneuver on the last moon mission they had to hit it rather hard to get this locking action once it is locked in it will pull the lunar module this spidery looking piece of machinery out of the third stage rocket the third stage rocket will have finished its mission it will be jettison it will be put on a trajectory towards the moon where it will land on the surface to create seismic waves which various instruments there will measure and this is the apollo 16 spacecraft

[01:08:00 \(https://www.youtube.com/watch?v=iYQZzD6nfu0&t=4080s\)](https://www.youtube.com/watch?v=iYQZzD6nfu0&t=4080s)

and this is the apollo 16 spacecraft which will fly to the moon the crew here the service marshall here this the lunar module which will separate and the crew will land that's how they'll go to the moon it's a very important maneuver and we hope to have expect to have live television pictures from the apollo 16 spacecraft of this event and it'll be later this afternoon about four o'clock eastern time now let's go back to john chancellor at the cape i think we can hear some conversation now but we're going to lose it in just a minute we've had conversation between the spacecraft and houston john young said again he said the view is just fantastic from up there they are are have passed over the canary islands and i guess they're out of touch now and they they we've had a loss of signal which is to be expected and uh they will be picked up by other stations as they go around and on the second revolution they're going to make two revolutions of the earth this afternoon before they head for the moon and they'll do that over australia so that's where they are now let's see if they've gone from the canary islands they're probably over africa at this moment going about 14 000 miles an hour they uh and that is where we stand now in a mission that has just uh gone as far as we can tell perfectly when they do get to the moon here's the schedule for that they now are in the air around the earth they're due to arrive on the moon on wednesday they are due to land on the moon thursday afternoon and they will have that day next thursday the first of their drives around the lunar surface they will have the second of their drives on friday and on saturday they will have the third now in those three days they will travel about 25 miles in all on the surface of the moon then next sunday afternoon they will leave the moon for the earth and they will go into orbit around the moon and on tuesday

[01:10:00 \(https://www.youtube.com/watch?v=iYQZzD6nfu0&t=4200s\)](https://www.youtube.com/watch?v=iYQZzD6nfu0&t=4200s)

orbit around the moon and on tuesday they will leave the moon's gravitational pull and head for the earth on wednesday near ken mattingly lieutenant commander thomas k mattingly ii the command module pilot will get out and walk in space that will be on wednesday afternoon and then splashdown in the pacific is for the 28th

of april of friday and that will be 12 days in all about as long as apollo 15. they will go about 25 miles apollo 15 travel 28 miles uh they will have 21 hours out of the space capsule on the surface of the moon the apollo 15 astronauts had only 18 and a half hours they will be on the surface of the moon for 73 hours i think that's a record apollo 15 went only 67 hours they are landing in a place called cayley plains in the descartes highlands on the moon and they hope to pick up 195 pounds of rock samples now here's roy neal at houston hundreds of visitors showed up today here at the modern spacecraft center in houston and many of them are visiting the space museum right now they watch the launch by television in a big auditorium in the same building and now they're looking at exhibits over a million people tour this center every year and among things they see are an actual command module the tool on apollo 9. there's also a lunar landscape complete with a real space suit once used by astronaut alan bean and replicas of all the tools that the astronauts will use on the surface of the moon in contrast with the crowds at the cape 1500 miles away the visitors here today took the launch more calmly but they are excited by the things they've seen and most of them say they do plan to follow the flight on television [Music] thank you roy lots of people here too

[01:12:01 \(https://www.youtube.com/watch?v=iYQZzD6nfu0&t=4321s\)](https://www.youtube.com/watch?v=iYQZzD6nfu0&t=4321s)

thank you roy lots of people here too we're going to have quite a large traffic jam as they all start to go back to have sunday dinner having seen one of the more spectacular shows of the year uh talking again about what they're going to be doing on the moon these astronauts when they land on the moon will be landing at a higher altitude than any other astronauts have ever done charles duke who has surveyed the territory there says it will be like landing in a valley at the top of a mountain they're going to be about 7 400 feet higher in terms of the moon surface than uh tranquility base where neil armstrong became the first american or first man to walk on the moon they're going to be landing several hundred miles to the north and to the west of hadley rill where apollo 15 landed and about which we now all of us know quite a lot so it's the first landing in the lunar highlands in the highest territory ever survived ever surveyed the men are on a new diet they found that the apollo 15 astronauts developed irregular breathing a regular beating of the heart the rhythms of the heart were disturbed by the moon and that is called arrhythmia i believe oh i'm not sure how you pronounce it what it means is that the heart beats in an irregular way and when they looked into this they found that the gravity on the moon is so light that they were losing potassium ions the gravity has something to do with that and i'm not quite sure what that is but they are now on a potassium-rich diet and presumably that irregularity won't happen again we'll be back with more of our coverage of apollo 16 after this word from gulf

END